

WE CLAIM:

1. A method for overcoming pilot pollution in a geographical area within a cellular wireless system, the method comprising:

receiving a preferred pilot signal in a directional receiving antenna within the geographical area from a selected base station;

5 amplifying the preferred pilot signal to provide a boosted pilot signal; and
transmitting the boosted pilot signal within the geographical area.

2. The method of Claim 1 further comprising:

aligning the directional receiving antenna with the selected base station in the cellular wireless network to selectively receive the preferred pilot signal, wherein the selected base station transmits the preferred pilot signal.

3. The method of Claim 1 wherein the amplifying step comprises:

selectively amplifying the preferred pilot signal with a surface acoustic wave filter.

4. An apparatus for overcoming pilot pollution in a geographical area within a cellular wireless system comprising:

a directional receiving antenna for receiving a preferred pilot signal from a selected base station;

5 a radio-frequency amplifier having an input and an output, wherein the input accepts the preferred pilot signal from the directional receiving antenna and the output provides a boosted pilot signal; and

a transmission antenna that accepts the boosted pilot signal from the output of the radio-frequency amplifier and transmits the boosted pilot signal within the geographical area.

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5. The apparatus of Claim 4 wherein the directional receiving antenna is a Yagi antenna.

6. The apparatus of Claim 4 wherein the radio-frequency amplifier includes a surface amplitude wave filter to selectively amplify the preferred pilot signal.

7. A method for forcing a hand-off within a cellular wireless system on crossing a boundary from a first geographical area to a second geographical area, the method comprising:

receiving a preferred pilot signal in a directional receiving antenna from a selected base station;

amplifying the preferred pilot signal to provide a boosted pilot signal; and

transmitting the boosted pilot signal within the second geographical area from a directional transmitting antenna.

8. The method of Claim 7 further comprising:

aligning the directional receiving antenna with the selected base station in the cellular wireless network to selectively receive the preferred pilot signal, wherein the selected base station transmits the preferred pilot signal.

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9. The method of Claim 7 further comprising:

aligning the directional transmitting antenna to selectively transmit the boosted pilot signal within the second geographical area; and

adjusting the boosted pilot signal to have a signal strength within the first geographical area that is substantially less than an intended pilot signal for the first geographical area.

10. The method of Claim 7 wherein the amplifying step comprises:

selectively amplifying the preferred pilot signal with a surface acoustic wave filter.

11. An apparatus for forcing a hand-off within a cellular wireless system on crossing a boundary from a first geographical area to a second geographical area comprising:

a directional receiving antenna for receiving a preferred pilot signal from a selected base station;

a radio-frequency amplifier having an input and an output, wherein the input accepts the preferred pilot signal from the directional receiving antenna and the output provides a boosted pilot signal; and

a directional transmission antenna that accepts the boosted pilot signal from the output of the radio-frequency amplifier and transmits the boosted pilot signal within the second geographical area.

12. The apparatus of Claim 11 wherein the directional receiving antenna is a Yagi antenna.

13. The apparatus of Claim 11 wherein the directional transmitting antenna is a Yagi antenna.

14. The apparatus of Claim 11 wherein the radio-frequency amplifier includes a surface amplitude wave filter to selectively amplify the preferred pilot signal.

15. A method for overcoming pilot pollution in a geographical area within a cellular wireless system, the method comprising:

aligning a directional receiving antenna with a selected base station in the cellular wireless network to selectively receive a preferred pilot signal, wherein the selected base station transmits the preferred pilot signal;

receiving the preferred pilot signal in a directional receiving antenna within the geographical area from the selected base station;

selectively amplifying the preferred pilot signal with a surface acoustic wave filter to provide a boosted pilot signal; and

transmitting the boosted pilot signal within the geographical area.

16. An apparatus for overcoming pilot pollution in a geographical area within a cellular wireless system comprising:

a Yagi receiving antenna for receiving a preferred pilot signal from a selected base station;

5 a radio-frequency amplifier having an input and an output, wherein the input accepts the preferred pilot signal from the Yagi receiving antenna and the output provides a boosted pilot signal, and wherein the radio-frequency amplifier includes a surface amplitude wave filter to selectively amplify the preferred pilot signal; and

a transmission antenna that accepts the boosted pilot signal from the output of the radio-
10 frequency amplifier and transmits the boosted pilot signal within the geographical area.

17. A method for forcing a hand-off within a cellular wireless system on crossing a boundary from a first geographical area to a second geographical area, the method comprising:

aligning a directional receiving antenna with a selected base station in the cellular wireless network to selectively receive a preferred pilot signal, wherein the selected base station transmits the preferred pilot signal;

receiving the preferred pilot signal in the directional receiving antenna from the selected base station;

selectively amplifying the preferred pilot signal with a surface acoustic wave filter to provide a boosted pilot signal;

10 aligning a directional transmitting antenna to selectively transmit the boosted pilot signal within the second geographical area; and

adjusting the boosted pilot signal to have a signal strength within the first geographical area that is substantially less than an intended pilot signal for the first geographical area; and

transmitting the boosted pilot signal within the second geographical area from the
15 directional transmitting antenna.

18. An apparatus for forcing a hand-off within a cellular wireless system on crossing a boundary from a first geographical area to a second geographical area comprising:

a Yagi receiving antenna for receiving a preferred pilot signal from a selected base station;

5 a radio-frequency amplifier having an input and an output, wherein the input accepts the preferred pilot signal from the Yagi receiving antenna and the output provides a boosted pilot signal, and wherein the radio-frequency amplifier includes a surface amplitude wave filter to selectively amplify the preferred pilot signal; and

a Yagi transmission antenna that accepts the boosted pilot signal from the output of the radio-frequency amplifier and transmits the boosted pilot signal within the second geographical area.

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